

**What is claimed is:**

1. An integrally built, linear array of cuvettes, which comprises:
  - (a) a plurality of adjacent cuvettes arranged along a straight line in an array, each cuvette in the array having the same shape and dimensions,
    - (i) each cuvette has means that form an integral part thereof and serve to accurately position the cuvette into an opening of a cuvette holder,
    - (ii) each cuvette has means for removably connecting the cuvette to a cuvette holder,
    - (iii) each cuvette has an upper chamber and a lower chamber having a common axis of symmetry passing through the centers of both chambers, each of the upper and lower chambers have a substantially cylindrical shape, the cross-sectional area of the upper chamber at the central part thereof being larger than the cross-sectional area of the lower chamber, the lower chamber has an open lower end, the upper chamber has an open top end and an annular bottom wall having a central circular opening that connects the upper chamber with the lower chamber, the inner surface of the bottom wall is part of a conical surface which forms an angle of about 80 degrees with the axis of symmetry, so that there is an abrupt change of cross-section between the upper chamber and the lower chamber;
  - (b) a plurality of webs, the number of webs being one less than the number of cuvettes in the array, each web connecting one adjacent cuvette to another adjacent cuvette so that each cuvette in the array is connected to either one or two other cuvettes, each web has a curved shape and only a single web joins two adjacent cuvettes; and
  - (c) the array of cuvettes is made of a first plastic material which is particularly suitable for being used in combination with a second material out of which a foil-shaped layer is made, the foil-shaped layer

being adapted to be closely attached to each cuvette of the array of cuvettes for covering at least one opening of each cuvette.

2. The cuvette array according to claim 1, wherein the symmetry axis of every cuvette forming part of the array of cuvettes lies substantially in a single plane which is a symmetry plane of the cuvette array, the array having two terminal cuvettes and a plurality of intermediate cuvettes, the upper part of each intermediate cuvette of the array is connected by a first single web to a neighboring cuvette lying on one side of the intermediate cuvette and is connected by a second single web to a neighboring cuvette lying on the opposite side of the intermediate cuvette, the first and second single webs lying on opposite sides of the symmetry plane.

3. A two-dimensional array of cuvettes, which comprises:

I. at least one integrally built, linear array of cuvettes, comprising:

(d) a plurality of adjacent cuvettes arranged along a straight line in an array, each cuvette in the array having the same shape and dimensions,

(iv) each cuvette has means that form an integral part thereof and serve to accurately position the cuvette into an opening of a cuvette holder,

(v) each cuvette has means for removably connecting the cuvette to a cuvette holder,

(vi) each cuvette has an upper chamber and a lower chamber having a common axis of symmetry passing through the centers of both chambers, each of the upper and lower chambers have a substantially cylindrical shape, the cross-sectional area of the upper chamber at the central part thereof being larger than the cross-sectional area of the lower chamber, the lower chamber has an open lower end, the upper chamber has an open top end and an annular bottom wall having a central circular opening that connects the upper chamber with the lower chamber, the inner surface of the bottom wall is part of a conical

surface, the cross-section of which forms an angle of about 80 degrees with the axis of symmetry, so that there is an abrupt change of cross-section between the upper chamber and the lower chamber;

- (e) a plurality of webs, the number of webs being one less than the number of cuvettes in the array, each web connecting one adjacent cuvette to another adjacent cuvette so that each cuvette in the array is connected to either one or two other cuvettes, each web has a curved shape and only a single web joins two adjacent cuvettes; and
- (f) the array of cuvettes is made of a first plastic material which is particularly suitable for being used in combination with a second material out of which a foil-shaped layer is made, the foil-shaped layer being adapted to be closely attached to each cuvette of the array of cuvettes for covering at least one opening of each cuvette;

II. a cuvette holder having a matrix array of openings configured and dimensioned for receiving the cuvettes, such that each cuvette of the at least one cuvette array fits snugly into one of the openings of the cuvette holder.

4. The two-dimensional array of cuvettes according to claim 3, wherein the cuvette holder and the cuvettes of the at least one linear cuvette array are so configured and dimensioned that two or more cuvette holders carrying each at least one linear cuvette array can be stacked in such a way that cuvettes having the same relative position in their respective holders are accurately positioned one above the other with coincidence of their symmetry axis, one of the cuvettes taking the position of an upper cuvette and the other cuvette taking the position of a lower cuvette, a portion of the lower part of the upper cuvette lying within the upper chamber of the lower cuvette and the lower end of the upper cuvette being at a predetermined distance from the bottom wall of the upper chamber of the lower cuvette.

5. The two-dimensional array of cuvettes according to claim 4, further comprising a foil which is attached to the lower end of each cuvette for covering the opening of the cuvette at that lower end thereof.

6. The two-dimensional array of cuvettes according to claim 5, wherein the foil is a filter.
7. The two-dimensional array of cuvettes according to claims 5, wherein the foil is transparent.
8. The two-dimensional array of cuvettes according to claims 5, wherein the foil carries genes or gene fragments deposited on the foil by microspotting.
9. The two-dimensional array of cuvettes according to claim 4, wherein the cuvette holder is of substantially rectangular shape and has four centering ribs located each on the outer surface of one of the corners of the cuvette holder.
10. The two-dimensional array of cuvettes according to claim 4, wherein the cuvette holder is so configured and dimensioned that the two-dimensional array of cuvettes is adapted to be used in a centrifuge.